

Amendments to the Claims

1. (Amended) A method of producing diversity-encoded spread-spectrum signals for transmission into a wireless communication channel, comprising:
 - generating a spread information signal ~~at least one wideband signal~~,
 - generating a despreading signal, and
 - ~~coupling an information signal onto the at least one wideband signal to produce at least one spread spectrum signal,~~
 - ~~— duplicating the spread spectrum signal to generate a plurality of spread spectrum signals, and~~
 - diversity-encoding at least one of the spread information signal and the despreading signal ~~spread spectrum signals~~.
2. (Amended) The method of producing diversity-encoded spread-spectrum signals recited in Claim 1 wherein the despreading wideband signal is comprises a noise signal.
3. (Amended) The method of producing diversity-encoded spread-spectrum signals recited in Claim 1 wherein generating a spread information signal ~~the step of coupling an information signal~~ includes modulating ~~the~~ at least one of a plurality of identical wideband signals with the an information signal.
4. (Cancelled)
5. (Amended) The method of producing diversity-encoded spread-spectrum signals recited in Claim 1 wherein ~~the step of~~ diversity encoding includes at least one item of a set of comprising providing a time offset, polarizing, applying a predetermined directionality, transmitting from a plurality of spatially separated transmitters, modulating with a predetermined carrier frequency, combining with a carrier having a predetermined mode, and transmitting ~~the spread spectrum signals~~ in at least one predetermined subspace channel.
6. (Amended) The method of producing diversity-encoded spread-spectrum signals recited in Claim 1 further comprising a step of modulating the spread information signal spread spectrum signals and the despreading signal onto a carrier signal.

7. (Amended) The method of producing diversity-encoded spread-spectrum signals recited in Claim 1 further comprising a step of coupling the ~~spread-spectrum signals~~ ~~spread information signal and the despreadsing signal~~ into a communication channel.
8. (Amended) A method of producing diversity-encoded spread-spectrum signals for transmission into a wireless communication channel, comprising:
 - generating at least one information-bearing wideband signal,
 - generating at least one decoding signal; and
 - diversity-encoding at least one of the information-bearing wideband signal and the decoding signal.
9. (Original) The method of producing diversity-encoded spread-spectrum signals recited in Claim 8 wherein the wideband signal includes a noise signal.
10. (Cancelled)
11. (Amended) The method of producing diversity-encoded spread-spectrum signals recited in Claim 8 wherein the step of diversity encoding includes at least one item of a set including ~~of~~ providing a time offset, polarizing, applying a predetermined directionality, transmitting from a plurality of spatially separated transmitters, modulating with a predetermined carrier frequency, combining with a carrier having a predetermined mode, and transmitting the signals in at least one predetermined subspace channel.
12. (Original) The method of producing diversity-encoded spread-spectrum signals recited in Claim 8 further comprising a step of modulating the information-bearing wideband signal and the decoding signal onto a carrier signal.
13. (Original) The method of producing diversity-encoded spread-spectrum signals recited in Claim 8 further comprising a step of coupling the information-bearing wideband signal and the decoding signal into a communication channel.
14. (Withdrawn) A method of extracting information signals from a plurality of received spread-spectrum signals comprising:
 - receiving the spread-spectrum signals, at least one of the spread-spectrum signals being a diversity-encoded spread-spectrum signal,
 - decoding at least one of the diversity-encoded signals, and

correlating the decoded signal with at least one of the spread-spectrum signals to produce a correlation signal that is indicative of information encoded in the spread-spectrum signals.

15. (Withdrawn) A method of extracting information signals from a plurality of received spread-spectrum signals comprising:

receiving the spread-spectrum signals and at least one spectrum-decoding signal, at least one of the spread-spectrum signals and the spectrum-decoding signal being a diversity-encoded signal,

decoding at least one of the diversity-encoded signals to provide at least one diversity-decoded signal, and

correlating the diversity-decoded signal with at least one of the spread-spectrum signals and the spectrum-decoding signal to produce a correlation signal that is indicative of information encoded in the spread-spectrum signals.

16. (Amended) A spread-spectrum transmitter ~~for transmitting spectrum-coded, diversity-coded signals, the transmitter~~ comprising:

a wideband-signal generator configured for generating ~~at least one~~ a plurality of wideband signals, at least one of the plurality wideband signals being designated as a despreading signal,

~~an information signal generator for generating at least one information signal, a modulator coupled to the wideband signal generator and the information signal generator configured for combining modulating at least one information signal with onto at least one of the plurality of wideband signals for generating a at least one spread-spectrum signal, and~~

~~a diversity processor configured for duplicating the at least one spread-spectrum signal to provide a plurality of duplicate spread-spectrum signals and adjusting at least one diversity parameter of at least one of the duplicate spread-spectrum signals and the decoding signal to enable separation of the adjusted signal from the at least one unadjusted signal.~~

17. (Amended) A spread-spectrum transmitter ~~for transmitting spectrum-coded, diversity-coded signals, the transmitter~~ comprising:

a wideband-signal generator configured for generating ~~at least one~~ a plurality of wideband signals,

~~an information signal generator for generating at least one information signal, a modulator coupled to the wideband signal generator configured for modulating and the information signal generator for combining at least one information signal onto with at least one of the plurality of wideband signals for generating at least one a spread-spectrum signal, and~~

~~a diversity processor configured for adjusting at least one diversity parameter of at least one of the spread-spectrum signal and at least one of the plurality of wideband signals the wideband signal to enable separation of the adjusted signal from the at least one unadjusted signals.~~

18. (Withdrawn) A spread-spectrum receiver for extracting an information signal from a plurality of spectrum-coded, diversity-coded signals, the receiver comprising:

a receiving system for receiving the spectrum-coded, diversity-coded signals,
a diversity processor coupled to the receiving system for diversity decoding at least one of the received signals to provide a plurality of signals that are highly correlated, and

a signal combiner coupled to the diversity processor for correlating or otherwise combining the plurality of highly correlated signals to generate a correlation signal indicative of the information signal.

19. (Withdrawn) A spread-spectrum receiver for extracting an information signal from at least one spectrum-coded, diversity-coded signal, the receiver comprising:

a receiving system for receiving the at least one spectrum-coded, diversity-coded signal and receiving at least one despreading signal, the received despreading signal being separable from the at least one spectrum-coded signal,

a diversity processor coupled to the receiving system for diversity decoding at least one of the received signals to generate a plurality of signals that are highly correlated, and

a signal combiner coupled to the diversity processor for correlating or otherwise combining the plurality of highly correlated signals to generate a correlation signal indicative of the information signal.